

SCOR Supply Chain Council Awards Entry for 2002

Section 1

General Information and Project Complexity

1. Provide the name of the submitting organization.

United States Navy
Naval Supply Systems Command (NAVSUP)

2. Identify the name of the organizational unit.

Navy Fleet Material Support Office (FMSO), Mechanicsburg, PA

3. Provide a brief mission statement of the organization.

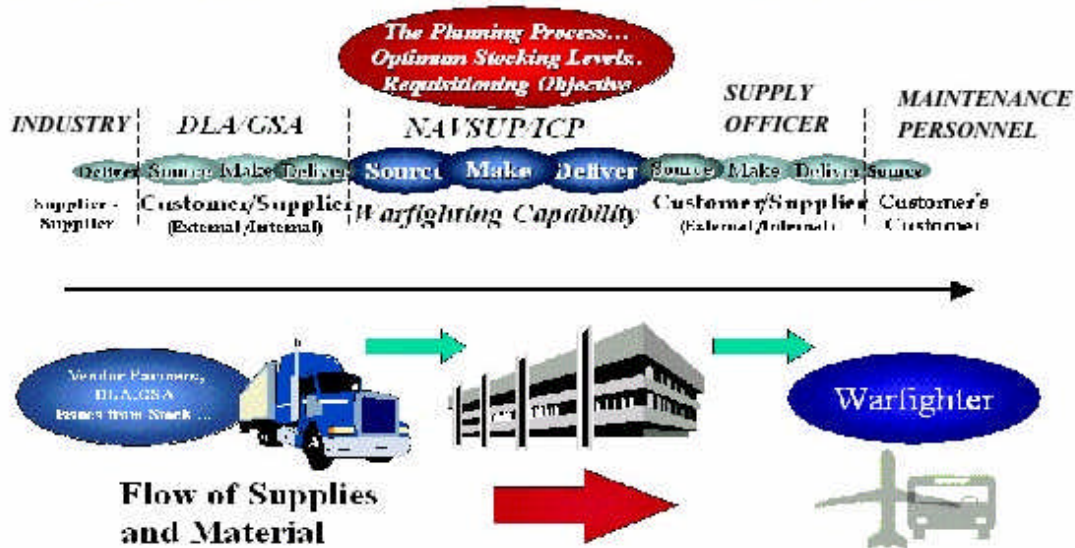
The mission of the Naval Supply Systems Command is to provide Navy, Marine Corps, Joint and Allied Forces quality supplies and services on a timely basis. A principal source of readiness for U.S. Naval forces, NAVSUP's diverse team delivers information, material, services and the quality of life products our Naval Forces need. Our vision of "One Touch Supply" inspires everything we do. A single action by the customer activates a global network of sources that deliver best value products and services. A workforce of over 9,000 employees manages logistics programs in the areas of supply chain operations, contracting, resale, fuel, transportation, security assistance, conventional ordnance, food service and other quality of life products. The mission of the Navy's Fleet Material Support Office is to be a leading Information Technology provider, and to design, develop, maintain, integrate and implement world-class business systems for the Navy, DOD and other federal agencies. FMSO is a fee-for-service activity whose competitive rates, proven performance, and quality services offer excellent solutions to today's business challenges. We are the first Navy activity to achieve a Capability Maturity Model (CMM) Level 4 rating. This CMM rating certifies that we have the policies, practices, processes, and measures in place that result in quality software development.

4. Indicate the award category of submission.

Award for Supply Chain Operational Excellence
Award for Supply Chain Management Technology Excellence

5. Provide a brief description of the supply chain and the processes the submission spans. Navy Supply Chain Process:

Navy Supply Chain Management



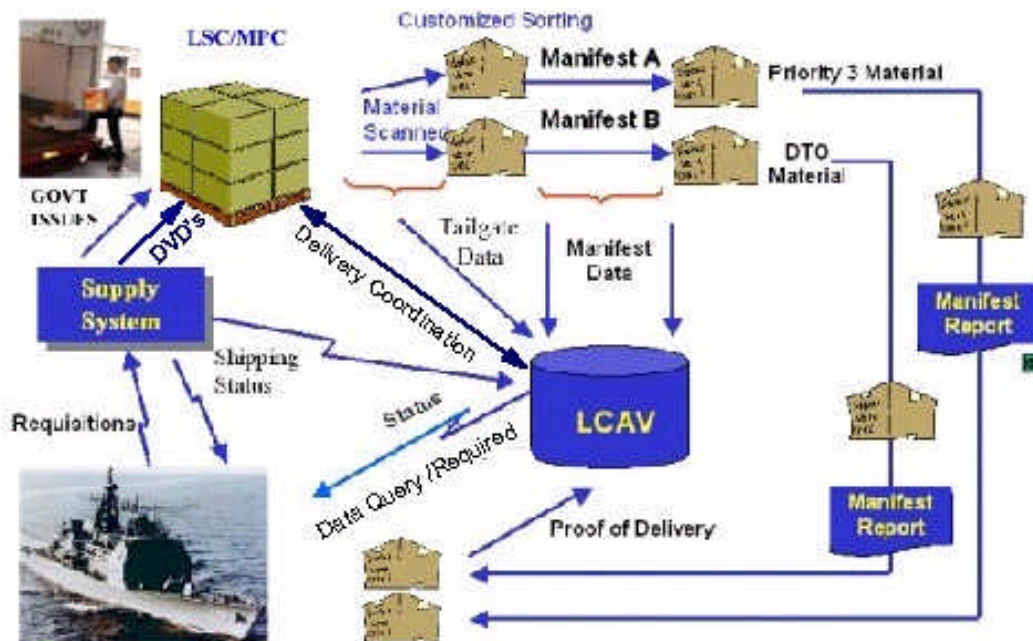
Reengineering the Deliver Process for Shipboard Customers

The scope of this project involved the Deliver process of the Supply Chain Operational Reference (SCOR) model. The goal of the Naval Supply Systems Command was to establish new activities at waterfront locations, which perform service and supply functions historically accomplished on board ships. The new activities perform supply chain functions within Material Processing Centers (MPCs), handling shipboard supplies and material arriving at the waterfront. The MPCs receive, store, sort, debulk, and inspect material. They also provide an intransit tracking capability.

NAVSUP was also seeking to implement technology at the Material Processing Centers, which would allow fleet supply customers to have on-line visibility of their material as it arrives at the waterfront and to collaborate with MPC personnel on customized delivery schedules. New web-enabled Logistics Support Center (LSC) Customer Asset Visibility (LCAV) software, developed for use in Material Processing Centers, provides visibility of material receipt and delivery information to fleet customers, improves the Navy's Stock in Transit tracking process, end records, and reports on Logistics Response Time.

The flow of material and data within the MPC and LCAV software is depicted below:

Material Processing Center Material Flow



6. Provide the names and number of people involved from each supply chain partner organization in the project. (External)

The basic concept for waterfront Logistics Support Centers (LSC) was developed at the Navy's Afloat Supply Department of the Future (ASDOF) conferences. Approximately 70 mid to high level military and civilian personnel attend the ASDOF conferences.

ASDOF attendees addressing shore support and the Logistics Support Center project included representatives from the following commands:

- Naval Supply Systems Command
- NAVSEA
- NAVAIR
- Commander Atlantic Fleet
- Commander Pacific Fleet
- Naval Transportation Command
- Fleet and Industrial Supply Center Norfolk, VA
- Fleet and Industrial Supply Center San Diego, CA
- Fleet and Industrial Supply Center Jacksonville, FL
- Fleet and Industrial Supply Center Puget Sound, WA
- Fleet and Industrial Supply Center Pearl Harbor, HI
- Fleet and Industrial Supply Center Yokosuka, Japan
- Commander Navy Region Northeast

- Fleet Supply Officers

Integrated Process Team for the Logistics Support Center project included military and civilian representatives from the following commands:

- Naval Supply Systems Command (NAVSUP HQ) (lead)
- Fleet and Industrial Supply Center Norfolk, VA
- Fleet and Industrial Supply Center San Diego, CA
- Fleet and Industrial Supply Center Jacksonville, FL
- Fleet and Industrial Supply Center Puget Sound, WA
- Fleet and Industrial Supply Center Pearl Harbor, HI
- Fleet and Industrial Supply Center Yokosuka, Japan
- Navy Region Northeast Groton, CT

Supply Chain Partners include:

- Defense Logistics Agency
- Naval Transportation Command
- General Services Administration
- Vendor suppliers
- Commercial transportation providers
- Ashore and Shipboard customers
- US Navy ships and submarines
- Navy Type Commanders

7. Provide names and the number of people involved from each functional organization and category of each organization. (Internal)

The Naval Supply Systems Command and Naval Fleet Material Support Office team included:

CDR Ted Digges - NAVSUP Project Manager
 Richard Schaefer – NAVSUP Functional Manager
 Barbara Pinamonti – NAVSUP/FMSO Systems Analyst
 Elsie Caldwell – FMSO Project Officer

The FMSO software development team included:

James Baynham	Karen Gaughan
David Baker	Nancy Faircloth
Ralph Barosi	Robin Shoap
Della Andresen	Nancy Merick
Matt Dyer	Susan Thurman
	Robert Straining

Section 2

Implementation

1. Describe the reason that the supply chain project was undertaken and how it was selected.

NAVSUP had been receiving feedback from both fleet and shore installation personnel which indicated the need for increased automation, reduced shipboard workload, and improved material tracking capability. The LSC/MPC project is an Afloat Supply Department of the Future (ASDOF) initiative and a component of the Naval Supply System Strategic Plan for the 21st century (SUP-21) FISC of the Future. It is paramount that ships and submarines get the best possible value and services. NAVSUP undertook an effort to identify the “Could Be” state of Navy Supply for the year 2005 via the SUP 21 Reengineering Team. A four pronged approach was initiated: seeking customer input; surveying best business practices available in private industry today; applying the personal experience of the team members; and input from a group of senior advisors and policy documents. The first two steps were accomplished concurrently by dividing the SUP 21 Reengineering team into a Customer Survey Team and a Benchmarking Team. Subsequently the SUP 21 Reengineering Team, as a whole, reviewed other related initiatives including the NAVSUP Tiger Team Reports and briefings from the Tiger Team Leaders, and the findings of the Defense Science Board. The Reengineering Team then entered into a brainstorming phase, which included integration of the information obtained in the first two steps ultimately resulting in synthesizing that data into a vision for Navy Supply for 2005.

Specifically, quarterly ASDOF conference provided a forum for mid to upper level Naval supply officers and Type Commanders to brainstorm ideas for reducing workload aboard ships. Participants identify areas of shipboard operations that could be performed ashore, along with costs and benefits associated with implementation of proposed projects.

Conference attendees agreed that most husbanding functions, and some functions involving receipt handling of material and supplies requisitioned for shipboard use, could be accomplished at an ashore site located close to the waterfront and deliver the following benefits:

- Improved material accountability
- Improved material visibility
- Quality of Life Improvement (move shipboard workload to ashore activities)
- Tailored customer support

The Logistic Support Center (LSC) concept, developed by stakeholders and NAVSUP, is a key initiative targeted at reducing shipboard workload, improving the sailor's quality of life, and a step toward reengineering the supply chain processes.

Once the LSC project was approved, an Integrated Process Team (IPT) was appointed to develop a detailed Concept of Operations for the project, and identify requirements for software to support tracking material flowing through the MPCs.

Naval Supply Systems Command had the lead roll for the LSC project, and embarked on a search to find a software tool that could meet the MPC requirements identified by the IPT. After researching several Commercial off the Shelf (COTS) and government developed software packages, it was determined that most were either too expensive, or required extensive changes to meet the MPC requirements. Existing software tools, designed for single customer use, supported tracking of material available for issue by stock number. The MPC software tool needed to provide better visibility of material in-transit, and to provide information beyond the shipping status record. Tracking material by customer requisition number and providing shipboard personnel with expanded visibility of material positioned at the waterfront were considered critical needs. Interface with the UADPS for Inventory Control Points (UICP) Stock-in-Transit Program was also needed to permit enhanced visibility of wholesale material in route to ships holding Navy Working Capital Fund material for issue. Although FMSO's Commercial Asset Visibility (CAV) software, which is used to track repairable items through the commercial repair process, also needed changes, it was selected as the "best fit". FMSO was tasked to develop a software package for the MPCs using the CAV software as the design model.

2. Indicate the duration of the project. Note if the project was a pilot that is being rolled out. Note if the project is ongoing/still in process.

The first LSC was opened at Fleet and Industrial Supply Center, Norfolk, VA, in November of 2000, providing husbanding services to local and visiting ships.

In September of 2000, NAVSUP had tasked FMSO with development of the LCAV software. The software was beta tested at the first MPC in Norfolk, VA, in March of 2001, approximately 6 months after the software development effort began. After a 30-day beta test period, FMSO has continued to train site personnel and implement the LCAV software at new MPCs.

The LCAV software was successfully implemented at 15 additional MPC activities in CY 01. Additional implementations are currently in the planning stages and include many overseas activities.

The LSC/LCAV project is an ongoing initiative to implement MPC activities at waterfront locations throughout the world in recognition of the Navy's global presence. LCAV is a robust information system with global connectivity that will accommodate visibility of material and the transfer of inventory to fleet customers.

3. Describe, in detail, the process used to complete the project.

The decision to develop LCAV was preceded by a SUP-21 Business Process Reengineering effort. This BPR process followed a 10-step process that included:

Step 1: Identify Processes for Improvement

During the planning process we identified the scope of policies and practices we needed to improve. The criteria we used to make our selection was largely determined by understanding the commercial practices outlined in the Supply Chain Reference Model (SCOR) and amplified by discussions with shipboard and Senior Advisors. The results of this planning determined that there were four basic areas we would address: world-class processes relating to personnel management, technological insertion, and organizational structure and the following aspects of supply chain management.

Distribution	Customer Service	Transportation	Warehousing
Inventory Management	Materials Management	Purchasing	Order Processing
Decision Support	Parts & Service Support	Plant/ Warehouse Site Selection	Packaging
Rework	Disposal		

It was agreed that these additional factors would help us identify changes that would address critical customer satisfaction issues and performance indicators.

Step 2: Clarify Understanding of Current Processes

In step 1, the team identified 14 key elements of the supply chain management process for commercial industry. To gain insight and increase our depth of understanding of industry and our own internal practices, general SCOR related commercial definitions obtained from Arthur Andersen and Navy standard definitions obtained from either the Afloat Supply Manual (P-485) or storekeeper educational courses. This process also ensured the team that when they were discussing issues with industry, a common language was being used.

Step 3: Identify “Best Practice” Companies

This step was facilitated by representatives from Arthur Andersen. Senior Advisors and Reengineering Team members analyzed information retrieved from Arthur Andersen’s Global Best Practices Knowledge Base in selecting companies to visit.

Step 4: Create Incentive for the Benchmarking Target Company

A presentation was created to give the companies, with which we benchmarked, an idea as to the scope and direction of our visit. It was hoped that the presentation would communicate an atmosphere that the team was not just there to just take from the targeted companies but to provide them some information about the Naval Supply Systems

Command and its reengineering effort. The presentation was well received by the company representatives.

Step 5: Make Contact with the Benchmarking Target Company (self explanatory).

Step 6: Send Confirmation Letter (self explanatory).

Step 7: Prepare For and Conduct the Benchmark Visit.

To prepare for each benchmark visit, four separate activities took place. First we researched current initiatives and recent successes to insure we could accurately compare our processes to the benchmark company. Secondly, we researched the company's background, so that we would know something about each company before we began our interviews. Finally, we developed a list of questions to use during the benchmark visit to try to keep the discussions focused.

With preparations complete, we conducted the benchmark visits. During the visits, each of the team members took notes and asked questions they thought appropriate. Subsequent to each visit each of the team member organized their individual notes, and the entire team met and developed a consolidated synopsis documenting the site visit.

Step 8: Summarize Benchmark Findings

The benchmark team's findings were presented to a combined meeting of the Senior Advisors and the Reengineering Team. The presentation began with a summary of the team's objectives and approach used during the visits. A brief description of each company was given to help the group understand the reason why that company was chosen for a visit. The description included current statistics regarding their operational and logistics functions. The team then presented the company's key world-class business concepts. The end of the brief concluded with a summary of the supply chain management concepts of our benchmarked companies that were conceptually different than those currently used by NAVSUP. For clarification and understanding they were reviewed and discussed by the entire group.

Step 9: Send out Thank You Note (self explanatory).

Step 10: Adapt and Incorporate Best Practices following prioritization. High payback processes were addressed first. In our case, the delivery process was deemed to be one of the first areas to be worked and an Integrated Process Team (IPT) was established.

The objective of the Integrated Process Team (IPT) was to acquire and record customer and stakeholder input and perceived opportunities for significant improvement in the area of service to the fleet and Navy Supply Chain effectiveness in the area of material visibility and delivery of goods to shipboard customers.

In developing the LCAV software, the team followed guidelines and used preferred

AS-IS and TO BE analysis consistent with commercial best practices as identified in the SCOR model and the software/hardware products contained in the NAVSUP Information Technology Standards Guidance (ITSG), which can be viewed on-line at www.doncio.navy.mil/training/tools/itsg.

A FMSO development team comprised of necessary functional and technical expertise was assembled. The team worked with NAVSUP Headquarters personnel and representatives from the potential user community in developing LCAV system specifications. A formal Software Development Plan, which included scope, resource, timeline, and resource requirements necessary to accomplish the development effort was assembled. Various risks were identified and corresponding risk mitigation strategies were put in place.

The web developers reused code from the Web-CAV system, (which tracks repairable items through the commercial repair process) where feasible. Additional code was added and integrated with the reused code, to accomplish the unique functionality required by the MPCs.

The LCAV software was developed using PowerBuilder Development Software, JAVA development tools, and an Oracle relational database system. The software is based on emerging WEB-CAV code. The software will use the latest generation of Symbol scanners that will scan material and upload data to a centralized server. Data in the LCAV system is accessible to both ships and personnel working in the Material Processing Center and to Logistics Support Representatives working in the LSC.

- Each MPC has a unique UIC and RIC assignment.
- LCAV tracks material by Document Number and can be cross-referenced to the carriers tracking number by query.
- Records for all MPCs are maintained in one Oracle database, on a UNIX central database server.
- A date/time stamp is recorded for all actions on each document.
- All actions on a record are sent to "History" on the UNIX server.
- Open records (No Proof of Delivery (POD)) are maintained in the database indefinitely.
- Closed records (Delivered and POD) are maintained in the database for three years after POD.
- The generation of D6K and D7K (in-transit Receipt and Issue) was a requirement directed by NAVSUP policy decision to help enhance the Navy's Stock in Transit (SIT) tracking process.
- All tailgate records are uploaded to the database, including all Frustrated Material. All material received is tracked by the software.
- Documents flowing through the system are assigned "Status Codes". Status Codes are explained below, and within each LCAV process.

I = Incomplete - NWCF ship and no AS1 matching record (material can be manifested, delivered and closed without manual override)

O = Open (waiting for manifest)

M = Manifested

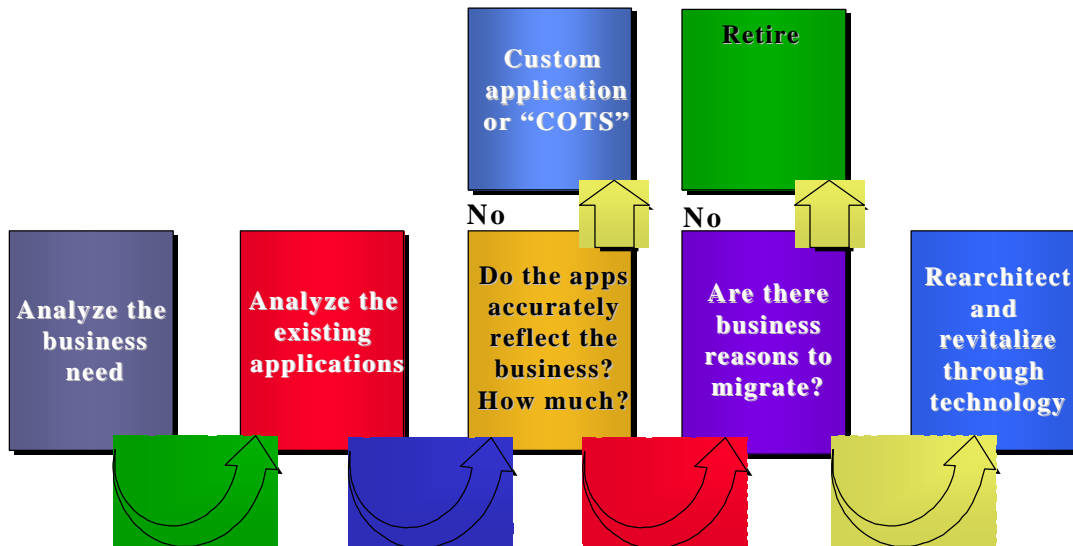
C = Closed (POD has been recorded)

Once developed, software was required to pass several iterations of testing. Individual programs were unit tested. Groups of programs were string tested. And the entire LCAV application underwent an integrated systems test, which included external interfaces. The team developed training materials, both on-line and text, as well as a three-day training curriculum for LCAV system users. A password required system security network was also established. Finally, a user acceptance beta test was performed to prototype the software prior to going into production.

4. Identify significant challenges encountered, the process for resolution, and the solutions. Identify best practices.

The most significant challenge encountered centered around the need to stand up a solution within the desired six-month time frame. We chose to address this issue through a portfolio management best practice approach. Specifically, we relied upon the portfolio management model below to identify the fact that existing Government Off-The-Shelf (GOTS) software could be reused and packaged with a limited amount of custom code to deliver a new delivery process capability in a faster time frame and at less cost than modifying Commercial Off-The-Shelf (COTS) software to meet military unique needs.

Application Portfolio Review



5. Indicate the metrics used to measure (a) progress and (b) success.

As the Supply System migrates to the role of supply chain manager, our traditional performance measures of supply management availability (SMA) and point of entry (POE) lose their significance. NAVSUP reviewed the measure of success metrics called out in the SCOR model and worked with Fleet representatives at ASDOF conferences to identify.

The following are examples of metrics collected by NAVSUP HQ to measure success of the LSC/MPC project:

Metric	Focus	Definition	Parameter	Source
Administrative				
MPC Staffing	NAVSUP Code 04	% of MPC Staff that are contractors	> 80%	NAVSUP
Readiness				
Work Volume	Contractor	#items tailgated	Resource at 13 line items / hour / person	LCAV
Frustrated Material resolution time	Contractor	Time frame to deliver frustrated material to the customer or return it to the sender	< 5 working days*	LCAV
Amount of Frustrated Material delivered	Fleet	% of frustrated material delivered to customers.	> 80%*	LCAV
Lost Material	Contractor	#L/I tailgated, but not manifested	< 1% of L/I tailgated*	LCAV
Material Receipt Time	Contractor	By ship time between tailgate to manifest or temporary storage	< or equal to 24 hours	LCAV
Material Hold Time	Fleet	By ship time between tailgate to delivery	< 2 weeks**	LCAV
On time Delivery	Fleet	Requested delivery time to POD deviation***	< 15 minutes	LCAV
Logistics Response Time (LRT)	DoD	Decrease LRT for afloat units from FY00 baseline	< 35.5 days average for FY00	LMAR
ROD Response Time	Contractor	Time between tailgate of discrepant material until a ROD is generated and material POD	< 3 days	LCAV

Financial				
MPC losses of NWCF / APA material	NAVSUP	\$value of material tailgated, but not manifested	< 1%*	PX06
Transshipment savings	NAVSUP	(Receipt volume – DD issues) X DLA transshipment rate	Equal or > \$3.4M DLA estimate for FY02****	NAVSUP Code 01
SIT loss avoidance	NAVSUP	\$value of net afloat SIT loss / \$ value of total SIT issues from ICPs.	< X% decrease from the FY99 baseline of \$7M.	PX06
Invalid SIT Lost in shipments	Fleet	SIT losses in shipment (M5) with matching proof of delivery (with matching MPC D7K transactions)	Zero***	PX06 and LCAV
Quality of Life				
TYCOM Satisfaction	Fleet	Quarterly formal questionnaire	NLT 3.0 on any area	TYCOM
*= Industry Best Practice Standard ** = Unless on extended underway period for exercises or local operations *** = Requires a modification to LCAV software **** = Based on all MPCs being in operation				

6. Document and quantify cost and performance improvement benefits.

Using the LCAV software, material receipt records are recorded in a central database, which accommodates records for all MPCs. Material is sorted by ship's UIC and Document Number, segregated by DTO, Stock, Work Center, Location, etc., and placed in a temporary storage location to await the ship's instructions for customized delivery.

Specific benefits extracted from the SCOR Model that are relevant to LCAV and scheduled for future inclusion in LCAV include:

<u>SCOR TERM</u>	<u>RELEVANT SCOR PROCESS CATEGORY #, PROCESS ELEMENT #, ETC.</u>
# of Orders Not Delivered	D2.8

Complete	
Customer Signature/Authorization To order Receipt Time	D1.2, D2.2, D3.2
Delivery Performance To Customer Request Date	P1, P1.3, P4, P4.3, P4.4, M1, M2, M3, D1.10,D2, D2.9 ,D3, D1.3, D3.8
Delivery Performance To Scheduled Commit Date	M1, M2, M3, M3.1, D1.10, D2, D2.9, D3, D3.8
Distribution Costs	D1.8, D1.9 ,D2.4, D2.5, D2.6, D2.7, D2.8, D3.5, D3.6, D3.7
Faultless Invoices	D1.13, D2.12, D3.11
Incoming Material Quality	D1.8
Indirect to direct	M1, M2, M3
Order Consolidation Profile	D1.4
Order Entry Complete to Order Ready for Shipment Time	D1.4, D1.5, D1.6, D1.7, D1.9, D1.10, D3.5, D3.6, D3.7
Order Fulfillment Costs	D1.3, D2.3, D3.3, D3.4
Order Management Costs	P1, P4, P4.1, P4.2, D1, D1.1, D2, D2.1, D3, D3.1
Perfect Order Fulfillment	D1.10, D1.11, D2, D2.2, D2.9, D2.10, D3, D3.8, D3.9
Transportation Costs	D1.4, D1.5, D1.6, D1.7, D2.9, D3.8

7. Outline how the success of this effort supports organizational objectives described in Section 1, Item 3.

The NAVSUP Afloat Supply Department of the Future (ASDOF) reengineering team significantly contributed to Fleet readiness by demonstrating that afloat workload can be reduced through innovative business processes, while maintaining accountability. Manpower-intensive supply operations that were moved ashore resulted in improved Quality of Service for our sailors and increased effectiveness and responsiveness of the support infrastructure ashore. The LSC/MPC is an example of workload reduction and improving the Sailors Quality of Life /Service thru realigning shipboard workload to ashore facilities.

The purpose of the LCAV project was to develop a software tool for use by regional Logistics Support Centers (LSCs) to track material processed within the Material Processing Centers (MPCs). The objective of the MPC is to improve the level of service provided to Navy customers, particularly Fleet customers, at no increase or a reduction in total cost. Initial efforts addressed material received and processed for ships within six Navy regions supported by Fleet Industrial Support Centers (FISCs). The software developed in support of the MPC not only met these efficiencies, but also provided a means for the MPC to contribute added value by improving existing regional business practices related to receipt and delivery of supplies and material to shipboard customers. FMSO's ability to utilize the latest development technology, rapid development tools, and expert knowledge of information technology practices, is demonstrated by the success of the Logistics Support Center project.

The LCAV software went beyond maintaining accountability to include enhanced visibility of material and supplies in route to shipboard customers, improved Stock in Transit tracking, and enhancements to the Navy's reporting of Logistics Response Time. Shipboard personnel can sign on to the LCAV web sight from anywhere in the world to locate their material positioned at the waterfront MPCs. The successful design, development and implementation of the web-enabled LCAV software, in support of ASDOF initiatives to reengineer shipboard workload, demonstrates FMSO's capabilities as a leading Information Technology provider.

Section 3

Knowledge Transfer

1. Describe the efforts to share lessons from this effort with other internal organizations.

Fleet Material Support Office maintains a reuse repository on shared server, where lessons learned, on all FMSO projects, can be viewed by others in the organization. Web sites are maintained to provide information about NAVSUP and FMSO projects, products and services (www.navsup.navy.mil and www.fmso.navy.mil). Web sites are also maintained by each Navy Fleet Industrial Supply Center where services of the LSC and MPC are explained in detail.

In addition, FMSO has demonstrated the capabilities of the LCAV software and its enhancements to the shipboard receiving and delivery process, at several formal conferences including:

The Supply Corps Waterfront Expo in Norfolk, Virginia, in August 2001.

Regular customer surveys are performed in consonance with implementation and software release to obtain customer feedback used to enhance and improve the LCAV application. Face to face LCAV user conferences will enable all stakeholders to share ideas and concerns, which ultimately raise the level of performance and benefits realized.

2. Indicate how these results can be transferred to other organizations, and specify the likely candidates for transference.

A partnership has been formed between NAVSUP and Defense Logistics Agency (DLA), to place MPC activities within the Defense Depots, which are co-located with Navy FISC activities. This partnership will expand the efficiencies implemented under the LSC/MPC project at the Navy's waterfront locations. To maintain a central database of material receipt and delivery records, DLA is using the LCAV software.

It is envisioned that the MPC process and software could be implemented in the European and Asia-Pacific regions at Navy transit sheds and contractor activities providing material handling services to the Navy fleet.